

Date: Wednesday, 01/04/2009 2:28:49 PM
 User: Linda Lacelle

Process Sheet

SPUR

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: X-TUBE EXTRUSION
Job Number	: 46779		
Estimate Number	: 11108		
P.O. Number	:	Part Number	: D6008180
This Issue	: 01/04/2009 S.O. No. :	Drawing Number	: D6008 REV A
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : PURCHASED PARTS	Drawing Revision	: A
Previous Run	: 40271	Material	:
Written By	:	Due Date	: 30/04/2009
Checked & Approved By	:	Qty:	15 Um: Each
Comment	: Est Rev:C 04.06.15 Added tolerance to Step 2 KJ/JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O:

8484

u 08-04-01

a) Order as per Dwg D6008

b) Material: 3.250 x 0.438 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6008)

f) Material certification required

2.0

D6008180P

Crosstube extrusion



Comment: Qty.: 1.0000 Each(s)/Unit Total : 15.0000 Each(s)

Crosstube extrusion

3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6005

Pc 9/17 (5)

809/05/15 (15)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 01/04/2009 2:28:49 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE EXTRUSION

Job Number: 46779

Part Number: D6008180

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Handwritten: A / A 8 9/5/15

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: L.G.

Handwritten: H 9-5-15

Handwritten: (5)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Handwritten: 09/05/19

Job Completion



Handwritten: MF 09-05-19

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

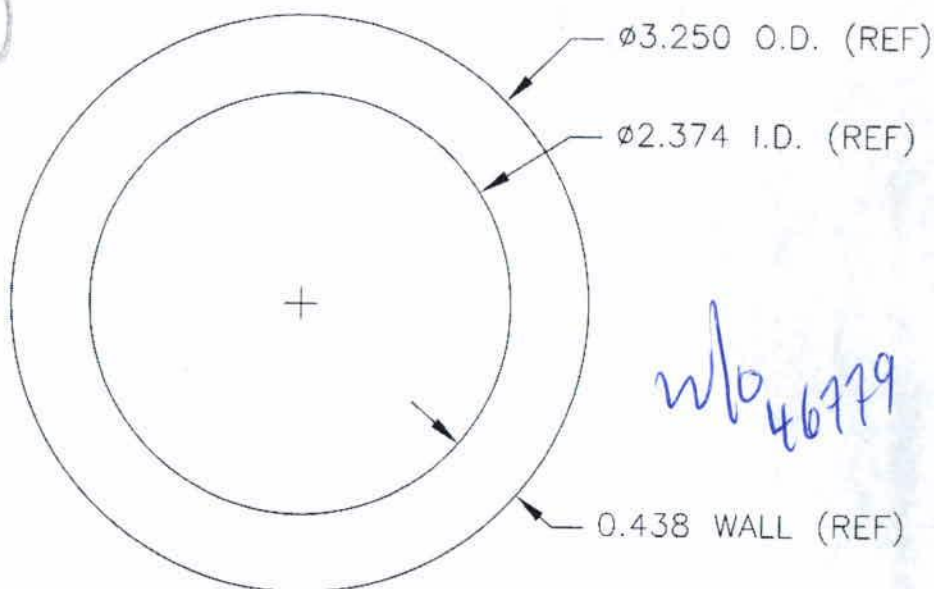
NOTE: Date & initial all entries



DESIGN <i>P</i>	DRAWN BY <i>P</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *#*



NOTES

- 1) D6008-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 180" LONG TUBE: D6008-180

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.008 MEAN (± 0.016 INCLUDING OVALITY)
WALL: ± 0.020 MEAN (± 0.044 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.
Client:

1270 Aberdeen Street
 K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 483/09
Cert No. / No. du certificat:

Bestellnummer: PO 00008484
Order No. / No. de commande

Produkt: Rohre nahtlos gepresst
Product / Produit: Tubes seamless extruded

Auftrag: 32365/1
Our Reference/Notre Reference:

Spezifikation: AMS - QQ - A - 200/11; AMS - WW - T 700/7; Spezifikation Dart Aerospace D6003
Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/Etat

Abmessung: 3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH
Size / Dimension: D6008-180 3.250 x 0.438 x 180

Kennzeichnung: ALUnna-Cert No.483/09-7075-T6511-Cast No.2674-AMS-QQA-200/11-3.250" Od X 0.438" Wall-Heat Lot No.400032-
Marking/Marquage: Alunna Order Conf .No.32365/1-1-P.O.00008484

Lieferung: pcs. lbs **Country of Manufacture: Germany**
Delivered Material / Matériel délivré: 5 353

1. Chemische Analyse Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
2674/09	0,093	0,210	1,396	0,047	2,395	0,195	5,663	0,036	0,001	0,0209	0,0001	0,0009	0,0001

Hydrogen content: 0,14 **ccm/100 g Al** Elements without indication < 0,01 % **country of melt manufacturer: Germany**

2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min. max.	77,0	66,0				
1	83,810	77,140	9,0			400032 - 5 pcs.

RMS: outside 25 - max. 11,5 µ"

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order
Resultats: Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande



Boxmarking:

e hereby declare that the wooden packing material are totally free from bark and apparently

æ from live plant pests

S:\VERSAND\USA_Packliste\32365_1Luft

order confirmation

32365

page: 2
date: 4.07.2009
customer 40980

Tubes protected with corrosion protective oil
Tubes line marked

Packing: seaworthy wooden cases
terms of delivery: DDP(Delivered,Duty,Paid)

Terms of payment: 30 days after date of delivery

delivery address:
Dart Aerospace Ltd.
1270 Aberdeen Street
CDN Hawkesbury, ONT, K6A1K7
Kanada

DART

Purchase Order

Date Apr 01, 2009	Page 1
Purchase Order Number PO00008484	

Dart Aerospace Ltd
1270 Aberdeen St
Hawksbury, Ontario K6A 1K7
Phone: (613)632-9577
Fax: (613)632-1053

REVISED

Vendor Address:

Aluminiumwerk Unna AG
Uelzener Weg 36
59425 Unna
Germany
Phone (303) 755-5672
Fax (303) 755-5936

Ship To:

Main Finished Goods Location
Dart Aerospace Ltd
1270 Aberdeen St
Hawksbury, Ontario K6A 1K7

Reference	Contact	Vendor Number	PO Date	Terms	Ship Via	Expected Arrival
TO REPLACE BATCH 39735		VU-ALU001	Apr 01, 2009	N30	yours	Apr 30, 2009

Qty. Ordered	Item Number	Description	Expected Arrival	Drop-Ship	Unit Cost	UOM	Extended Price
15.0000	D6008180P	Crosstube extrusion Comments: -PER DRWG D6008 -MATERIAL 3.250 X 0.438W, 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUM. TUBE -MINIMUM ULTIMATE TENSILE STRENGTH= 77KSI -MINIMUM TENSILE YIELD STRENGTH= 66 KSI -TOLERANCE PER ASTM B210 -MATERIAL CERTIFICATION REQUIRED -MATERIAL REQUIRED RUSH!!!		No	830.000000	Each	12,450.00
New 5 8/9/14							
MATERIAL CERTIFICATION REQ'D UPON DELIVERY							

Comments:

Tax Summary:

Less:

Included tax

0.00

Subtotal

12,450.00

Total tax

0.00

Total purchase order in

USD Dollars

12,450.00

Entered By: LLACELLE

Approved By:



\$ CHANGE